AMENDMENTS

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A control thin film transistor for controlling an organic light-emitting diode (OLED), comprising:

a substrate;

a semiconductor layer disposed on the substrate as a channel region;

a first and second doped region sequentially disposed on a first side of the semiconductor layer, wherein the doped concentration of the first doped region is lower than that of the second doped region, and the first doped region serves as a single-side lightly doped drain region and the second doped region serves as a drain region;

a third doped region disposed on a second side of the semiconductor layer, which is opposite to the first side, serving as a source region;

an insulating layer disposed on the surface of the semiconductor layer, and the first, second, and third regions;

a source and drain electrode penetrating the insulating layer contacting the source and drain regions respectively, wherein the drain electrode receives a drain voltage and the source electrode is electrically connected to an OLED unit; and

a conductive layer serving as a gate layer disposed in the insulating layer, at approximately the top right portion of the semiconductor layer.

2. (Original) The control thin film transistor as claimed in claim 1, wherein the semiconductor layer is composed of polysilicon.

3. (Original) The control thin film transistor as claimed in claim 1, wherein the first, second and third doped regions are n-type doped.

4. (Original) The control thin film transistor as claimed in claim 1, wherein the first, second and third doped regions are p-type doped.

5. (Original) The control thin film transistor as claimed in claim 1, wherein the first, second and third doped regions are mainly composed of silicon.

6. (Original) A control thin film transistor for controlling an organic light-emitting diode (OLED), comprising:

a substrate;

a semiconductor layer disposed on the substrate as a channel region;

a first and second doped region sequentially disposed on a first side of the semiconductor layer, wherein the doped concentration of the first doped region is lower than that of the second doped region, and the second doped region serves as a drain region;

a third and fourth doped region sequentially disposed on a second side of the semiconductor layer, which is opposite to the first side; wherein the doped concentration of the third doped region is lower than that of the fourth doped region that serves as a source region and the length of the third doped region is less than that of the first doped region;

an insulating layer disposed on the surface of the semiconductor layer, and the first, second, third and fourth regions;

a source and drain electrode penetrating the insulating layer contacting the source and drain regions respectively, wherein the drain electrode receives a drain voltage and the source electrode is electrically connected to an OLED unit; and

a conductive layer serving as a gate layer disposed in the insulating layer, at approximately the top right portion of the semiconductor layer.

7. (Original) The control thin film transistor as claimed in claim 6, wherein the semiconductor layer is composed of polysilicon.

8. (Original) The control thin film transistor as claimed in claim 6, wherein the first, second, third and fourth doped regions are n-type doped.

9. (Original) The control thin film transistor as claimed in claim 6, wherein the first, second, third and fourth doped regions are p-type doped.

10. (Original) The control thin film transistor as claimed in claim 6, wherein the first, second, third and fourth doped regions are mainly composed of silicon.

11. (Original) An electroluminescent display device, which sequentially scans a plurality of pixels composing a display screen and provides current to the scanned pixels according to pixel signals received while scanning, thereby activating electroluminescent units in the pixels to display figures on the display screen according to the pixel signals, the device is characterized by having a plurality of control TFTs as claimed in claim 1 in the pixels to control the current provided to the scanned pixels.

12. (Original) An electroluminescent display device, which sequentially scans a plurality of pixels composing a display screen and provides current to the scanned pixels according to pixel signals received while scanning, thereby activating electroluminescent units in the pixels to display figures on the display screen according to the pixel signals, the device is characterized by having plurality of control TFTs as claimed in claim 5 in the pixels to control the current provided to the scanned pixels.

13. – 22. (Canceled)